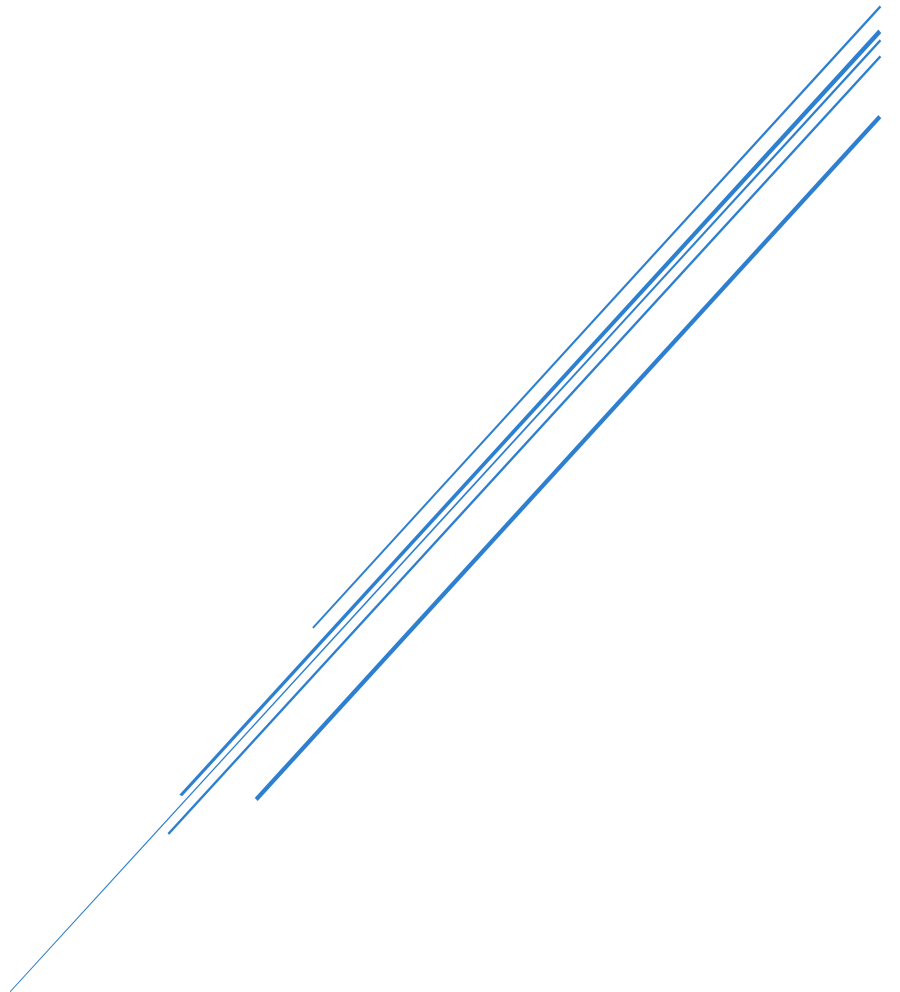


# Intervention Framework for Tear-deficient Dry Eye Disease.

The *Intervention Framework for Tear-deficient Dry Eye Disease* (**IFTDE**) is specifically for the treatment of Aqueous Tear Deficient Dry Eye or Eyes.



Version	Author	Date	Change
V0.1	Georgeatkinsonzero@protonmail.com	21 July 2024	Original version

## Introduction

The IFTDE focuses on managing **Aqueous Tear Deficiency (ATD)** through immediate relief and long-term strategies to promote eye health and comfort. The framework, created from a patient's perspective, offers practical steps to effectively manage ATD and resume a normal Quality of Life as fast as possible.

**I will build upon and edit this framework in the future and republish to Reddit. Feedback can be submitted to my email address [Georgeatkinsonzero@protonmail.com](mailto:Georgeatkinsonzero@protonmail.com)**

## Purpose, Scope and Application

The **purpose** of this framework is to ensure rapid and effective relief for most patients by employing evidence-based interventions tailored to general patient needs.

The document frames a series of steps and treatments that should help a broad range of individuals.

The **scope** of the IFTDE Method encompasses a wide range of treatments, from non-invasive therapies to advanced medical procedures.

This framework is **applicable** to both patients as well as healthcare providers specialising in eye care, offering a step-by-step guide to optimise fast outcomes and improve quality of life for those suffering from dry eye disease. Through systematic implementation, the IFTDE aims to reduce symptoms, enhance tear production and stability, and prevent long-term ocular damage.

# 1. Identify the Cause and Classify the Type of Dry Eye Disease

## Step 1: Recognise Symptoms of Dry Eye Disease

- Persistent dryness
- Redness
- Gritty or sandy sensation
- Burning or stinging
- Severe pain
- Sensitivity to light
- Blurred vision
- Eye fatigue

Understanding these and other symptoms helps in identifying the type of dry eye condition and its severity. This is important as it will help you navigate which healthcare providers can help you the most, and which may unintentionally have you to return on an ongoing basis with no improvement in symptoms as they struggle to provide adequate treatment.

## Step 2: Differentiate Between ATD, MGD, and Demodex Mites

### Aqueous Tear Deficiency (ATD)

Cause:

- Inadequate production of the watery component of tears due to lacrimal gland failure or blockage.

Symptoms:

- Severe dryness, discomfort, burning sensation, and significant pain.

### Meibomian Gland Dysfunction (MGD)

Cause:

- Blocked or dysfunctional meibomian glands in the eyelids, leading to poor quality tears.

Symptoms:

- Oily or frothy tears, crusty eyelids, stinging, blurry vision.

### Demodex Mites

Cause:

- Infestation of Demodex mites in the eyelashes or sebaceous glands.

Symptoms:

- Itchy eyes, red and inflamed eyelids, cylindrical dandruff at the base of eyelashes.

## Step 3: Seek Professional Diagnosis

Schedule an appointment with an eye care professional for a thorough examination, including tests like:

- Tear break-up time (TBUT)
- Schirmer's test
- Dry spots on eye
- Corneal abrasions
- Meibomian gland expression (oil quality)
- Demodex mite examination

Knowing your TBUT and Schirmer scores helps determine the severity of ATD.

# 2. Treating Aqueous Tear Deficiency (ATD)

## Phase 1: Immediate Relief (prior to visiting a doctor)

### 1: Artificial Tears

- Use **preservative-free artificial tears** to lubricate the eyes. Administer 4-6 times a day, ensuring drops are preservative-free to avoid potential irritation from long-term use.

## 2: Warm Compresses

- Apply a **USB electric warm compress** to the eyes for 10-15 minutes, twice daily. This helps stimulate tear production without risking overheating, unlike traditional microwave masks.

## 3: Cold Compress

- Use a frozen compress for 10-15 minutes at night to reduce inflammation, balancing the known side effect of warm compresses being increased inflammation.

## 4: Mauka Honey Gel

- Apply Mauka honey gel twice daily to the eyelids to reduce inflammation and promote healing. Available online or at local pharmacies.

## 5: Eyelid Hygiene

- Clean eyelids with a tee-tree oil eyelid wipes or foam to remove debris and reduce inflammation.

## 6: Eye mask at Night

- Use an eye mask like the BlinkJoy during sleep to maintain eye moisture.
- While waiting for the eye mask to arrive, you can use Glad Press and Seal against the eyes at night to act as a makeshift mask.

## 7: Ointment at Night

- Apply lubricating ointment before sleep to retain moisture overnight.

## 8: Bandage Contact Lenses

- Use bandage contact lenses to protect the eye surface and allow healing. Start after roughly 30 days of initial treatment of Mauka honey – **you cannot apply Mauka Honey while wearing a bandage lens.**

## 9: Increase Humidity

- Use a humidifier in living and working spaces to add moisture to the air.

## 10: Hydration and Supplements

- Drink plenty of water throughout the day to support tear production.
- Start taking omega-3 or other recommended supplements.

## 11: Avoid Triggers and modify Environment

- Identify and avoid factors like wind, smoke, and excessive screen time that worsen dry eyes.
- Adjust screen height / distance / time.

## 12: Moisture Chamber Glasses and Sunglasses

- Wear moisture chamber glasses to create a humid environment around the eyes and shield them from irritants and wear sunglasses outdoors and in brightly lit shopping centres to protect eyes from wind and bright lights.

## 13: Blink Exercises

- Practice blinking regularly to maintain the tear film.

## 14: Finger Prick Autologous Blood (FAB)

- Prick clean fingers and apply blood to the eyes four times daily. Ensure thorough hand washing to minimise infection risks.

## Phase 2: Intermediate Relief (after visiting a doctor)

### 1: Steroid Eye Drops

- Use prescribed steroid eye drops to reduce inflammation.

### 2: Oral Anti-Inflammatory

- Doxycycline

### 3: Topical Cyclosporin (e.g., Ikervis)

- Apply topical cyclosporin as directed to increase tear production and reduce inflammation.

### 4: Intense Pulse Light (IPL)

- Undergo a minimum of eight sessions of IPL therapy to improve tear production and reduce inflammation.

### 5: Punctal Plugs

- Insert punctal plugs after significant inflammation reduction, typically **post-steroid or cyclosporin treatment for at least 14 days**.

## Phase 3: Long-Term Management (Incorporating Doctor Approvals, Long Wait Times, and High Costs)

### 1: Autologous Serum Tears (AST)

- Use personalised autologous serum tears to improve tear quality, adjusting concentrations as needed – usually starting at least 30%.

### 2: Punctal Caутery

- Consider punctal cautery to manage tear drainage under professional guidance.

### 3: Meibomian Gland Probing

- Discuss meibomian gland probing with an ophthalmologist who does this.
- Some who do not perform it will be dismissive – ignore them.

### 4: PRP Eyedrops

- Explore platelet-rich plasma (PRP) eyedrops if autologous serum tears are ineffective.

### 5: Scleral Contact Lenses

- Use scleral contact lenses to maintain continuous eye moisture.
- The larger the better (e.g Boston PROSE or [Contamac Optimum Infinite](#))
- Ensure high DK (i.e 180+)
- Preferred mapping technique: sMap 3D.

### 6: CCH Surgery

- Consult for Conjunctivochalasis (CCH) surgery to address tear distribution issues.

## Phase 4: Other treatments to consider in no order

- **Saliva Gland Transplant:**
  - Consider this as a **last-resort option** under hospital ophthalmology unit guidance.
- **Tyrvaya Nasal Spray:**
  - (Not accessible in Australia) Tyrvaya is FDA-approved to treat the symptoms of dry eye disease in adults, such as burning and pain.
- **Cord Blood Serum**
- **Lid tarsorrhaphy**
- **Gabapentin**
- **Naltrexone**

- **3% Testosterone Cream**
- **Oxervate**
- **Amniotic Membrane Transplant**

## **Timeframes for results**

I will expand on this section later 😊

## **Conclusion**

By following IFTDE, you can effectively reduce the inflammation on your eyeballs which will in turn reduce discomfort and improve eye health. Always consult with an eye care professional for personalised advice and treatment adjustments.

You've got this 😊